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EXAMINER	
RYMAN, DANIEL J	
ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/605,696	DOUGHERTY ET AL.	
	Examiner	Art Unit	
	DANIEL J. RYMAN	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on 1/8/2008, PROSECUTION IS HEREBY REOPENED. A new grounds of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 10-14, 28, 31, and 36-40 rejected under 35 U.S.C. 102(e) as being anticipated by Ganz et al. (USPN 6,584,080).

4. Regarding claims 10 and 36, Ganz discloses a method of distributing high-speed information packets to at least one subscriber unit (col. 4, lines 36-61, where packets are sent to users, i.e. subscriber units, over an Ethernet network, i.e. high-speed network), each information packet associated with an information channel (col. 5, lines 21-24, where users are given portion of a channel, such that the packets are associated with an information channel), the method comprising: routing each information packet through a distributed network of routing elements (Fig. 1 and col. 2, line 48-col. 3, line 7, where each repeater, i.e. routing element, routes information packets over a distributed network of repeaters, see also col. 4, lines 10-12 and col. 5, lines 64-66), each routing element in wireless communication with at least one other routing element in the network of routing elements (Fig. 1 and col. 2, lines 51-65, see also col. 3, line 64-col. 4, line 21); receiving each information packet in a distribution center in communication with the distributed network of routing elements (Fig. 1 and col. 4, lines 10-12, where a repeater acts as a distribution center when it distributes packets to various users connected to a repeater, see also col. 4, lines 36-39; Fig. 1 and col. 3, lines 59-63, where a repeater connects to a user, i.e. distribution center, connecting to multiple computing equipment over a LAN); and forwarding each information packet to each subscriber unit in communication with the distribution center (col. 2, lines 59-65, where packets are transmitted to end users) and requesting the information channel of which the information packet is associated (col. 11, lines 25-35, where end users request a connection, i.e. channel, to a network over which the packets are transmitted).

5. Regarding claims 11 and 37, Ganz discloses that the information packets comprise video information (col. 11, lines 15-18).

6. Regarding claims 12 and 38, Ganz discloses that routing each information packet through a distributed network of routing elements comprises: routing each information packet through a distributed network of distribution points (Fig. 1 and col. 2, line 48-col. 3, line 7, where each repeater, i.e. routing element, routes information packets over a distributed network of repeaters, see also col. 4, lines 10-12 and col. 5, lines 64-66); and transmitting each information packet to an access point operative to communicate with a plurality of subscriber units (Fig. 1 and col. 3, lines 59-63, where a repeater connects to a user, i.e. access point, connecting to multiple computing equipment over a LAN).

7. Regarding claims 13 and 39, Ganz discloses that at least one distribution point functions as the distribution center (Fig. 1 and col. 4, lines 10-12, where a repeater acts as a distribution center when it distributes packets to various users connected to a repeater, see also col. 4, lines 36-39).

8. Regarding claims 14 and 40, Ganz discloses that at least one access point functions as the distribution center (Fig. 1 and col. 3, lines 59-63, where a repeater connects to a user, i.e. access point, connecting to multiple computing equipment over a LAN, such that the user acts as a distribution center).

9. Regarding claim 28, Ganz discloses a system for providing packetized video information to a plurality of subscriber units (col. 4, lines 36-61, where packets are sent to users, i.e. subscriber units, and col. 11, lines 15-18, where the packets include video information) comprising a distributed routing network (Fig. 1 and col. 2, line 48-col. 3, line 7, where repeater

form a distributed routing network, see also col. 4, lines 10-12 and col. 5, lines 64-66), the distributed routing network comprising a plurality of distribution points (Fig. 1 and col. 2, line 48-col. 3, line 7, where each repeater, i.e. distribution point, routes information packets over a distributed network of repeaters, see also col. 4, lines 10-12 and col. 5, lines 64-66), each distribution point in the plurality of distribution points in radio contact with at least one other distribution point in the plurality of distribution points (Fig. 1 and col. 2, lines 51-65, see also col. 3, line 64-col. 4, line 21), at least one of the plurality of distribution points functioning as a video distribution center (Fig. 1 and col. 4, lines 10-12, where a repeater acts as a distribution center when it distributes packets to various users connected to a repeater, see also col. 4, lines 36-39; and col. 11, lines 15-18, where the packets include video information, such that the repeater acts as a video distribution center).

10. Regarding claim 31, Ganz discloses a system for providing packetized video information to a plurality of subscriber units (col. 4, lines 36-61, where packets are sent to users, i.e. subscriber units, and col. 11, lines 15-18, where the packets include video information) comprising: a distributed routing network (Fig. 1 and col. 2, line 48-col. 3, line 7, where repeater form a distributed routing network, see also col. 4, lines 10-12 and col. 5, lines 64-66), the distributed routing network comprising a plurality of distribution points (Fig. 1 and col. 2, line 48-col. 3, line 7, where each repeater, i.e. distribution point, routes information packets over a distributed network of repeaters, see also col. 4, lines 10-12 and col. 5, lines 64-66), each distribution point in the plurality of distribution points in radio contact with at least one other distribution point in the plurality of distribution points (Fig. 1 and col. 2, lines 51-65, see also col. 3, line 64-col. 4, line 21); and at least one access point in communication with the

distributed routing network functioning as a video distribution center (Fig. 1 and col. 3, lines 59-63, where a repeater connects to a user, i.e. access point, connecting to multiple computing equipment over a LAN; and col. 11, lines 15-18, where the packets include video information, such that the user acts as a video distribution center).

Claim Rejections - 35 USC § 103

11. Claims 15-17, 19, 29, 30, 32-35, 41-43, 45, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ganz et al. (USPN 6,584,080) as applied to claims 10, 28, 31, and 36 above, and further in view of Lewis et al. (USPN 6,009,099), of record.

12. Regarding claims 15, 41, and 45, Ganz does not expressly disclose receiving a request from a subscriber unit to access an information channel; requesting transmission of the requested information channel if no other subscriber unit is receiving the requested information channel; and noting that the requesting subscriber unit is receiving the requested information channel. However, Ganz does disclose that the packets contain video information (Ganz: col. 11, lines 15-18). Ganz also disclose sending a request for setting up a link that requires a given QoS, such as a video link (Ganz: col. 11, lines 25-35, see also col. 11, lines 15-18). Lewis teaches, in a video distribution network, receiving a request from a subscriber unit to access an information channel (col. 1, lines 52-63, where a user sends a request for an information channel); requesting transmission of the requested information channel if no other subscriber unit is receiving the requested information channel (col. 1, lines 52-63, where "[i]f the new video channel is authorized but not available, steps are performed such that the new video channel becomes available," see also col. 2, lines 54-64); and noting that the requesting subscriber unit is receiving the requested information channel (col. 3, lines 4-9, where devices keep track of the

number of units receiving an active channel, and col. 2, lines 40-43, where the device translates the address of the video channel to the address of a subscriber receiving the video channel, such that the device must note that the receiving subscriber is receiving the requested information channel). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive a request from a subscriber unit to access an information channel; to request transmission of the requested information channel if no other subscriber unit is receiving the requested information channel; and to note that the requesting subscriber unit is receiving the requested information channel in the system of Ganz, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

13. Regarding claims 16 and 42, Ganz in view of Lewis implicitly discloses that receiving a request from a subscriber unit comprises determining that the requesting subscriber unit is within the coverage area of a distribution center (Ganz: col. 11, lines 43-51, where the repeater will only distribute packets to users within its own coverage area).

14. Regarding claims 17 and 43, Ganz in view of Lewis discloses that receiving a request from a subscriber unit comprises receiving a message from a subscriber unit (Lewis: col. 1, lines 55-57).

15. Regarding claims 19 and 46, Ganz in view of Lewis discloses determining that a subscriber unit is no longer accessing the information channel (Lewis: col. 3, lines 6-12, where a device checks if devices are still using a channel); canceling transmission of the information channel if no other subscriber unit is receiving the information channel (Lewis: col. 3, lines 6-

12, where a video channel that is not provided to any users is to be deleted); and noting that the subscriber unit is no longer receiving the information channel (Lewis: col. 3, lines 6-12, where a device tracks which channels are being received, and col. 2, lines 40-43, where implicitly the device will stop translating the address of the video channel to the address of a subscriber receiving the video channel, such that the device must note that the receiving subscriber is no longer receiving the requested information channel).

16. Regarding claim 29, Ganz does not expressly disclose that at least one of the distribution points is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier. However, Ganz does disclose that the packets contain video information (Ganz: col. 11, lines 15-18). Ganz also disclose sending a request for setting up a link that requires a given QoS, such as a video link (Ganz: col. 11, lines 25-35, see also col. 11, lines 15-18). Lewis teaches, in a video distribution network, that a distribution point is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier (col. 2, lines 56-64, where if a requested channel is not being received then the request is forwarded to a "video information provider," i.e. a video supplier). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier in the system of Ganz, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

17. Regarding claim 30, Ganz does not expressly disclose that at least one video distribution center forwards video information packets comprising a video channel to each subscriber unit served by the video distribution center requesting the video channel. However, Ganz does disclose that the packets contain video information (Ganz: col. 11, lines 15-18). Ganz also disclose sending a request for setting up a link that requires a given QoS, such as a video link (Ganz: col. 11, lines 25-35, see also col. 11, lines 15-18). Lewis teaches, in a video distribution network, that at least one video distribution center forwards video information packets comprising a video channel to each subscriber unit served by the video distribution center requesting the video channel (col. 2, lines 15-23, where the video distribution center forwards "ATM cell based video information," i.e. video information packets, to the subscribers). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have at least one video distribution center forwards video information packets comprising a video channel to each subscriber unit served by the video distribution center requesting the video channel in the system of Ganz, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

18. Regarding claim 32, Ganz does not expressly disclose that the at least one access point is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier. However, Ganz does disclose that the packets contain video information (Ganz: col. 11, lines 15-18). Ganz also disclose sending a request for setting up a link that requires a given QoS, such as a video link (Ganz: col. 11, lines 25-35,

see also col. 11, lines 15-18). Lewis teaches, in a video distribution network, at least device is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier (col. 2, lines 56-64, where a request from a user is received and forwarded to the video information provider, i.e. video supplier, if the channel is not already being received). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the at least one access point be operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier in the system of Ganz, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

19. Regarding claim 33, Ganz does not expressly disclose that the at least one access point replicates video information packets comprising a video channel for each of a plurality of subscriber units requesting the video channel. However, Ganz does disclose that the packets contain video information (Ganz: col. 11, lines 15-18). Ganz also disclose sending a request for setting up a link that requires a given QoS, such as a video link (Ganz: col. 11, lines 25-35, see also col. 11, lines 15-18). Lewis teaches, in a video distribution network, replicating video information packets comprising a video channel for each of a plurality of subscriber units requesting the video channel (col. 2, lines 64-67, where multipoint transmissions involve replication of the information). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the at

least one access point replicate video information packets comprising a video channel for each of a plurality of subscriber units requesting the video channel in the system of Ganz, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

20. Regarding claim 34, Ganz does not expressly disclose that at least one access point is operative to receive a request to access a video channel from a subscriber unit; determine if the requested video channel is currently being accessed by another subscriber unit served by the access point; and if the requested video channel is not currently being accessed by another subscriber unit served by the access point, forwarding the request to a video supplier. However, Ganz does disclose that the packets contain video information (Ganz: col. 11, lines 15-18). Ganz also disclose sending a request for setting up a link that requires a given QoS, such as a video link (Ganz: col. 11, lines 25-35, see also col. 11, lines 15-18). Lewis teaches, in a video distribution network, receiving a request to access a video channel from a subscriber unit (col. 1, lines 52-63, where a user sends a request for an information channel); determining if the requested video channel is currently being accessed by another subscriber unit served by the device (col. 3, lines 4-9, where devices keep track of the number of units receiving an active channel); and if the requested video channel is not currently being accessed by another subscriber unit served by the device, forwarding the request to a video supplier (col. 1, lines 52-63, where "[i]f the new video channel is authorized but not available, steps are performed such that the new video channel becomes available," see also col. 2, lines 54-64). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill

in the art at the time of the invention to have the at least one access point be operative to receive a request to access a video channel from a subscriber unit; determine if the requested video channel is currently being accessed by another subscriber unit served by the access point; and if the requested video channel is not currently being accessed by another subscriber unit served by the access point, forwarding the request to a video supplier in the system of Ganz, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

21. Regarding claim 35, Ganz in view of Lewis discloses that each of the at least one access point is further operative to receive a video information packet from at least one video supplier (Lewis: col. 2, lines 10-22, where the video information is received in an ATM cell, i.e. an information packet); determine if the received video packet corresponds to a video channel requested by more than one subscriber unit (Lewis: col. 2, lines 10-22, where ATM cells are provided to the requesting units); and forward the video packet to each subscriber unit requesting the video channel (Lewis: col. 2, lines 10-22, where ATM cells are provided to the requesting units).

22. Claims 18 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ganz et al. (USPN 6,584,080) in view of Lewis et al. (USPN 6,009,099), of record, as applied to claims 15 and 41 above, and further in view of T. T. Lee, "Non-blocking Copy Networks for Multicast Packet Switching," Digital Communications, Mapping New Applications onto New Technologies, 1988 International Zurich Seminar on 8-10 March 1988, pp. 221 - 229.

23. Regarding claims 18 and 44, Ganz in view of Lewis does not expressly disclose transmitting a dummy address as the destination for the requested transmission of the requested

information channel. Lee teaches, in a system for distributing video information to multiple parties (p. 221, Abstract and Introduction), using dummy addresses for the transmission of a requested information channel (p. 221, Abstract and Introduction, see also p. 222 and p. 224) in order to allow a packet to be correctly copied (p. 221, Abstract and Introduction, see also p. 222 and p. 224). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to transmit a dummy address as the destination for the requested transmission of the requested information channel to permit the packets of the requested information channel to be correctly copied.

24. Claim 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ganz et al. (USPN 6,584,080) in view of Fluss (USPN 6,304,578), of record.

25. Regarding claim 20, Ganz discloses a system for providing high-speed packetized information (col. 4, lines 36-61, where packets are sent to users, i.e. subscriber units, over an Ethernet network, i.e. high-speed network) comprising a distributed routing network (Fig. 1 and col. 2, line 48-col. 3, line 7, where repeater form a distributed routing network, see also col. 4, lines 10-12 and col. 5, lines 64-66), the distributed routing network comprising a plurality of distribution points (Fig. 1 and col. 2, line 48-col. 3, line 7, where each repeater, i.e. distribution point, routes information packets over a distributed network of repeaters, see also col. 4, lines 10-12 and col. 5, lines 64-66), each distribution point in the plurality of distribution points in radio contact with at least one other distribution point in the plurality of distribution points (Fig. 1 and col. 2, lines 51-65, see also col. 3, line 64-col. 4, line 21), at least one of the plurality of distribution points comprising at least one host digital terminal (HDT) for converting high-speed information packets to an electrical format (Fig. 1 and col. 2, lines 48-

65, where a repeater transmits packets to users over electrical connections) and forwarding the information packets to subscriber units (col. 2, lines 59-65, where packets are transmitted to end users, i.e. subscriber units).

Ganz does not expressly disclose that the HDT converts the high-speed information packets to an optical format. Rather, Ganz discloses that the HDT converts the high-speed information packets to an electrical format (Fig. 1 and col. 2, lines 48-65). Fluss teaches, in a system for distributing information, distributing information using a hybrid fiber/coax (HFC) network, such that the headend, i.e. a host digital terminal, converts the packets to an optical format for forwarding to subscribers over a HFC network (col. 4, lines 45-49). Examiner takes official notice that using fiber is well known in the art due to the high transmission capacity of fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the HDT convert the high-speed information packets into an optical format to allow the packets to be distributed over a very high-transmission capacity optical network.

26. Regarding claim 21, Ganz in view of Fluss does not expressly disclose that at least one subscriber unit is operative to receive information packets in an optical format; however, Ganz in view of Fluss does disclose the use of hybrid fiber/coax networks to distribute the packets to the subscriber unit (Fluss: col. 4, lines 45-49). Examiner takes official notice that fiber to the curb (FTTC) is well known in the art as a way to extent the high speed fiber optical line all the way to the subscriber unit to provide the subscriber unit with the greater bandwidth offered by fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the subscriber unit be operative to receive information packets in an optical

format to permit the high-speed fiber optic line to be extended all the way to the subscriber unit.

27. Regarding claim 22, Ganz in view of Fluss discloses at least one access point in communication with the at least one HDT (Ganz: Fig. 1 and col. 3, lines 59-63, where a repeater connects to a user, i.e. access point, connecting to multiple computing equipment over a LAN, see also Fluss: col. 4, lines 45-49, where the HFC contains a node, i.e. an access point, that converts the information from an optical format to an electrical format), the access point operative to convert information packets in an optical format into a format compatible with copper cabling (Fluss: col. 4, lines 45-49, where the HFC contains a node, i.e. an access point, that converts the information from an optical format to an electrical format).

28. Regarding claim 23, Ganz in view of Fluss discloses that at least one subscriber unit is in communication with the at least one access point through a network interface device (Ganz: Fig. 1 and col. 3, lines 59-63, where the computer equipment connects to the user over a LAN, see also Fluss: col. 4, lines 45-49, where the subscriber will receive the packets over the HFC network).

29. Regarding claim 24, Ganz in view of Fluss discloses that at least one access point functions as a video distribution center (Ganz: Fig. 1 and col. 4, lines 10-12, where a repeater acts as a distribution center when it distributes packets to various users connected to a repeater, see also col. 4, lines 36-39; and col. 11, lines 15-18, where the packets include video information, such that the repeater acts as a video distribution center).

30. Regarding claim 25, Ganz in view of Fluss discloses that high-speed packetized information is provided through a VDSL service (Fluss: col. 5, lines 2-8, esp. line 7).

31. Regarding claim 26, Ganz in view of Fluss discloses that the high-speed information includes video information (Ganz: col. 11, lines 15-18).

32. Regarding claim 27, Ganz in view of Fluss discloses that at least one distribution point functions as a video distribution center (Ganz: Fig. 1 and col. 4, lines 10-12, where a repeater acts as a distribution center when it distributes packets to various users connected to a repeater, see also col. 4, lines 36-39; and col. 11, lines 15-18, where the packets include video information, such that the repeater acts as a video distribution center).

Claim Rejections - 35 USC § 103

33. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

34. Claims 10-14, 20-28, and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fluss (USPN 6,304,578), of record, in view of Gulliford et al. (USPN 6,366,584), of record.

35. Regarding claims 10 and 36, Fluss discloses a method of and system for distributing high-speed information packets to at least one subscriber unit, each information packet associated with an information channel, the method comprising the steps of and the system comprising means for: routing each information packet through a distributed network of routing elements (col. 4, lines 25-31, where each packet is routed through routers, i.e. routing elements, in the internet, i.e. a distributed network); receiving each information packet in a distribution center in communication with the distributed network of routing elements (col. 4,

lines 25-31, where a headend, i.e. a distribution center, receives the packets); and forwarding each information packet to each subscriber unit in communication with the distribution center and requesting the information channel of which the information packet is associated (col. 4, lines 32-41, where a router in the headend "routes queued data packets to the appropriate users of shared channel").

Fluss does not expressly disclose that each routing element is in wireless communication with at least one other routing element in the network of routing elements. Gulliford teaches, in a distributed routing network (col. 7, lines 61-63), connecting routing elements via wireless links (col. 7, line 61-col. 8, line 11, where the elements route traffic on to other nodes, i.e. the elements are "routers," see also col. 13, lines 13-44) to enable high bandwidth, rapid deployment, and incremental deployment costs (col. 2, lines 40-col. 3, line 5, where, for example, "[w]ireless networks adapted according to the present invention can be deployed in a fraction of the time it takes to deploy in-ground based (copper, fiber, hybrid fiber/coaxial HFC, etc.) systems"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have each routing element be in wireless communication with at least one other routing element in the network to deploy the distributed network in a manner that offers high bandwidth, rapid deployment, and incremental deployment costs.

36. Regarding claims 11 and 37, Fluss in view of Gulliford discloses that the information packets comprise video information (Gulliford: col. 2, lines 53-57, where video services require video packets).

37. Regarding claims 12 and 38, Fluss in view of Gulliford discloses that routing each information packet through a distributed network of routing elements comprises: routing each information packet through a distributed network of distribution points (col. 4, lines 25-31, where each packet is routed through a distributed network of routers, i.e. the internet, see also Gulliford: col. 7, lines 61-63, where each packet is routed through a distributed network); and transmitting each information packet to an access point operative to communicate with a plurality of subscriber units (Fluss: col. 4, lines 25-41, where the packets are transmitted to a headend, i.e. an access point operative to communicate with a plurality of subscriber units, see also Gulliford: col. 8, lines 22-25, where one routing node, i.e. access point, connects to a plurality of subscribers, such as 132A and 132B, see also col. 12, lines 32-35).

38. Regarding claims 13 and 39, Fluss in view of Gulliford discloses that at least one distribution point is functioning as the distribution center (Fluss: col. 4, lines 25-41, where the packets are transmitted to a headend, i.e. a distribution center, which includes a router, i.e. a distribution point, such that at least one distribution point functions as the distribution center, see also Gulliford: col. 8, lines 22-25, where one routing node, i.e. distribution point, connects to a plurality of subscribers, such as 132A and 132, such that it acts as a distribution center, see also col. 12, lines 32-35).

39. Regarding claims 14 and 40, Fluss in view of Gulliford discloses that at least one access point is functioning as the distribution center (Fluss: col. 4, lines 25-41, where the headend is an access point functioning as the distribution center, see also Gulliford: col. 8, lines 22-25, where one routing node, i.e. access point, connects to a plurality of subscribers, such as 132A and 132, such that it acts as a distribution center, see also col. 12, lines 32-35).

40. Regarding claim 20, Fluss discloses a system for providing high-speed packetized information comprising a distributed routing network (col. 4, lines 25-31, where each packet is routed through the internet, i.e. distributed routing network), the distributed routing network comprising a plurality of distribution points (col. 4, lines 25-31, where each packet is routed through routers, i.e. distribution points, in the internet), at least one of the plurality of distribution points comprising at least one host digital terminal (HDT) for converting high-speed information packets to an optical format and forwarding the information packets to subscriber units (col. 4, lines 32-41, where a router in the headend "routes queued data packets to the appropriate users of shared channel," and col. 4, lines 45-49, where the routing is done over a hybrid fiber/coax (HFC) network, such that the headend, i.e. a host digital terminal, converts the packets to an optical format for forwarding to subscribers over a HFC network).

Fluss does not expressly disclose that each distribution point is in wireless communication with at least one other distribution point. Gulliford teaches, in a distributed routing network (col. 7, lines 61-63), connecting distribution points via wireless links (col. 7, line 61-col. 8, line 11, where the elements route traffic on to other nodes, see also col. 13, lines 13-44) to enable high bandwidth, rapid deployment, and incremental deployment costs (col. 2, lines 40-col. 3, line 5, where, among other things, "[w]ireless networks adapted according to the present invention can be deployed in a fraction of the time it takes to deploy in-ground based (copper, fiber, hybrid fiber/coaxial HFC, etc.) systems"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have each distribution point be in wireless communication with at least one other distribution point to deploy the

distributed network in a manner that offers high bandwidth, rapid deployment, and incremental deployment costs.

41. Regarding claim 21, Fluss in view of Gulliford does not expressly disclose that at least one subscriber unit is operative to receive information packets in an optical format; however, Fluss in view of Gulliford does disclose the use of hybrid fiber/coax networks to distribute the packets to the subscriber unit (Fluss: col. 4, lines 45-49). Examiner takes official notice that fiber to the curb (FTTC) is well known in the art as a way to extent the high speed fiber optical line all the way to the subscriber unit to provide the subscriber unit with the greater bandwidth offered by fiber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the subscriber unit be operative to receive information packets in an optical format to permit the high-speed fiber optic line to be extended all the way to the subscriber unit.

42. Regarding claim 22, Fluss in view of Gulliford discloses at least one access point in communication with the at least one HDT, the access point operative to convert information packets in an optical format into a format compatible with copper cabling (Fluss: col. 4, lines 45-49, where the headend distributes the information over a hybrid fiber/coax (HFC) networks, wherein it is implicit that HFC networks contain nodes, i.e. access points, which convert the information from an optical format to a format compatible with copper cabling for distribution to the subscriber units).

43. Regarding claim 23, Fluss in view of Gulliford discloses that at least one subscriber unit is in communication with the at least one access point through a network interface device (Fluss: col. 4, lines 45-49, where the subscriber will receive the packets over the HFC network).

44. Regarding claim 24, Fluss in view of Gulliford suggests that at least one access point functions as a video distribution center (Fluss: col. 4, lines 45-49, where the headend distributes the information over a hybrid fiber/coax (HFC) networks, wherein it is implicit that HFC networks contain nodes, i.e. access points, which convert the information from an optical format to a format compatible with copper cabling for distribution to the subscriber units, and Gulliford: col. 4, lines 53-57, where video services are distributed, such that the access point is, as broadly defined, a "video distribution center," since it distributes video information received from the network).

45. Regarding claim 25, Fluss in view of Gulliford discloses that high-speed packetized information is provided through a VDSL service (Fluss: col. 5, lines 2-8, esp. line 7).

46. Regarding claim 26, Fluss in view of Gulliford discloses that high-speed information includes video information (Gulliford: col. 2, lines 53-57, where video services require video packets).

47. Regarding claim 27, Fluss in view of Gulliford suggests that at least one distribution point functions as a video distribution center (Gulliford: col. 4, lines 53-57, where since video services are distributed throughout the network through the routers, i.e. distribution points, a distribution point is, as broadly defined, a "video distribution center," since the router distributes video information).

48. Regarding claim 28, Fluss discloses a system for providing packetized information to a plurality of subscriber units comprising a distributed routing network (col. 4, lines 25-31, where each packet is routed through the internet, i.e. distributed routing network), the distributed routing network comprising a plurality of distribution points (col. 4, lines 25-31, where each

packet is routed through routers, i.e. distribution points, in the internet), at least one of the plurality of distribution points functioning as a distribution center (col. 4, lines 32-41, where a headend "routes queued data packets to the appropriate users of shared channel," i.e. it acts as a distribution center).

Fluss does not expressly disclose that each distribution point is in wireless communication with at least one other distribution point. Gulliford teaches, in a distributed routing network (col. 7, lines 61-63), connecting distribution points via wireless links (col. 7, line 61-col. 8, line 11, where the elements route traffic on to other nodes, see also col. 13, lines 13-44) to enable high bandwidth, rapid deployment, and incremental deployment costs (col. 2, lines 40-col. 3, line 5, where, among other things, "[w]ireless networks adapted according to the present invention can be deployed in a fraction of the time it takes to deploy in-ground based (copper, fiber, hybrid fiber/coaxial HFC, etc.) systems"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have each distribution point be in wireless communication with at least one other distribution point to deploy the distributed network in a manner that offers high bandwidth, rapid deployment, and incremental deployment costs.

Fluss does not expressly disclose that the information is video information or that the distribution center is a video distribution center. Gulliford teaches, in a distributed routing network (col. 7, lines 61-63), distributing video information to subscribers in the network (col. 4, lines 53-57). It is implicit that any distribution center that distributes video information to subscribers, as broadly defined, is a "video distribution center" since it distributes the video to the subscribers. Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to have the information be video information and to have a distribution unit be a video distribution unit to permit a user to view video.

49. Claims 15-17, 19, 29, 30, 41-43, 45, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fluss (USPN 6,304,578), of record, in view of Gulliford et al. (USPN 6,366,584), of record, as applied to claims 10, 28, 31, and 36 above, and further in view of Lewis et al. (USPN 6,009,099), of record.

50. Regarding claims 15, 41, and 45, Fluss in view of Gulliford does not expressly disclose receiving a request from a subscriber unit to access an information channel; requesting transmission of the requested information channel if no other subscriber unit is receiving the requested information channel; and noting that the requesting subscriber unit is receiving the requested information channel. However, Fluss in view of Gulliford does disclose that the packets contain video information (Gulliford: col. 4, lines 53-57). Lewis teaches, in a video distribution network, receiving a request from a subscriber unit to access an information channel (col. 1, lines 52-63, where a user sends a request for an information channel); requesting transmission of the requested information channel if no other subscriber unit is receiving the requested information channel (col. 1, lines 52-63, where "[i]f the new video channel is authorized but not available, steps are performed such that the new video channel becomes available," see also col. 2, lines 54-64); and noting that the requesting subscriber unit is receiving the requested information channel (col. 3, lines 4-9, where devices keep track of the number of units receiving an active channel, and col. 2, lines 40-43, where the device translates the address of the video channel to the address of a subscriber receiving the video channel, such that the device must note that the receiving subscriber is receiving the requested information

channel). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive a request from a subscriber unit to access an information channel; to request transmission of the requested information channel if no other subscriber unit is receiving the requested information channel; and to note that the requesting subscriber unit is receiving the requested information channel in the system of Fluss in view of Gulliford, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

51. Regarding claims 16 and 42, Fluss in view of Gulliford in further view of Lewis implicitly discloses that receiving a request from a subscriber unit comprises determining that the requesting subscriber unit is within the coverage area of a distribution center (Fluss: col. 4, lines 33-41, where since the headend only distributes packets to user within its coverage area, the headend should only service requests that are intended for users within its coverage area).

52. Regarding claims 17 and 43, Fluss in view of Gulliford in further view of Lewis discloses that receiving a request from a subscriber unit comprises receiving a message from a subscriber unit (Lewis: col. 1, lines 55-57).

53. Regarding claims 19 and 46, Fluss in view of Gulliford in further view of Lewis discloses determining that a subscriber unit is no longer accessing the information channel (Lewis: col. 3, lines 6-12, where a device checks if devices are still using a channel); canceling transmission of the information channel if no other subscriber unit is receiving the information channel (Lewis: col. 3, lines 6-12, where a video channel that is not provided to any users is to be deleted); and noting that the subscriber unit is no longer receiving the information channel

(Lewis: col. 3, lines 6-12, where a device tracks which channels are being received, and col. 2, lines 40-43, where implicitly the device will stop translating the address of the video channel to the address of a subscriber receiving the video channel, such that the device must note that the receiving subscriber is no longer receiving the requested information channel).

54. Regarding claim 29, Fluss in view of Gulliford does not expressly disclose that at least one of the distribution points is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier. However, Fluss in view of Gulliford does disclose that the packets contain video information (Gulliford: col. 4, lines 53-57). Lewis teaches, in a video distribution network, that a distribution point is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier (col. 2, lines 56-64, where if a requested channel is not being received then the request is forwarded to a "video information provider," i.e. a video supplier). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier in the system of Fluss in view of Gulliford, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

55. Regarding claim 30, Fluss in view of Gulliford does not expressly disclose that at least one video distribution center forwards video information packets comprising a video channel to each subscriber unit served by the video distribution center requesting the video channel. However, Fluss in view of Gulliford does disclose that the packets contain video information

(Gulliford: col. 4, lines 53-57). Lewis teaches, in a video distribution network, that at least one video distribution center forwards video information packets comprising a video channel to each subscriber unit served by the video distribution center requesting the video channel (col. 2, lines 15-23, where the video distribution center forwards "ATM cell based video information," i.e. video information packets, to the subscribers). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have at least one video distribution center forwards video information packets comprising a video channel to each subscriber unit served by the video distribution center requesting the video channel in the system of Fluss in view of Gulliford, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

56. Claims 18 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fluss (USPN 6,304,578), of record, in view of Gulliford et al. (USPN 6,366,584), of record, in further view of Lewis et al. (USPN 6,009,099), of record, as applied to claims 15 and 41 above, and further in view of T. T. Lee, "Non-blocking Copy Networks for Multicast Packet Switching," Digital Communications, Mapping New Applications onto New Technologies, 1988 International Zurich Seminar on 8-10 March 1988, pp. 221 - 229.

57. Regarding claims 18 and 44, Fluss in view of Gulliford in further view of Lewis does not expressly disclose transmitting a dummy address as the destination for the requested transmission of the requested information channel. Lee teaches, in a system for distributing video information to multiple parties (p. 221, Abstract and Introduction), using dummy addresses

for the transmission of a requested information channel (p. 221, Abstract and Introduction, see also p. 222 and p. 224) in order to allow a packet to be correctly copied (p. 221, Abstract and Introduction, see also p. 222 and p. 224). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to transmit a dummy address as the destination for the requested transmission of the requested information channel to permit the packets of the requested information channel to be correctly copied.

58. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fluss (USPN 6,304,578), of record, in view of Gallagher (USPN 7,016,308), of record, in further view of Gulliford et al. (USPN 6,366,584), of record.

59. Regarding claim 31, Fluss discloses a system for providing packetized information to a plurality of subscriber units comprising: a distributed routing network (col. 4, lines 25-31, where each packet is routed through the internet, i.e. distributed routing network), the distributed routing network comprising a plurality of distribution points (col. 4, lines 25-31, where each packet is routed through routers, i.e. distribution points, in the internet); and at least one of the plurality of distribution points functioning as a distribution center (col. 4, lines 32-41, where a headend "routes queued data packets to the appropriate users of shared channel," i.e. it acts as a distribution center).

Fluss inherently discloses at least one access point in communication with the distributed routing network since Fluss discloses that the headend distributes the packets over a hybrid fiber/coax (HFC) network (col. 4, lines 45-49). For example, Gallagher teaches that in HFC networks, optical distribution nodes, i.e. access points, are used to convert the optical signals to

electrical signals (col. 1, lines 18-30). As such, Fluss discloses at least one access point in communication with the distributed routing network.

Fluss does not expressly disclose that each distribution point is in wireless communication with at least one other distribution point. Gulliford teaches, in a distributed routing network (col. 7, lines 61-63), connecting distribution points via wireless links (col. 7, line 61-col. 8, line 11, where the elements route traffic on to other nodes, see also col. 13, lines 13-44) to enable high bandwidth, rapid deployment, and incremental deployment costs (col. 2, lines 40-col. 3, line 5, where, among other things, "[w]ireless networks adapted according to the present invention can be deployed in a fraction of the time it takes to deploy in-ground based (copper, fiber, hybrid fiber/coaxial HFC, etc.) systems"). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have each distribution point be in wireless communication with at least one other distribution point to deploy the distributed network in a manner that offers high bandwidth, rapid deployment, and incremental deployment costs.

Fluss does not expressly disclose that the information is video information or that the access point is a video distribution center. Gulliford teaches, in a distributed routing network (col. 7, lines 61-63), distributing video information to subscribers in the network (col. 4, lines 53-57). It is implicit that any access point that distributes video information to subscribers, as broadly defined, is a "video distribution center" since it distributes the video to the subscribers. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the information be video information and to have an access point be a video distribution unit to permit a user to view video.

60. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fluss (USPN 6,304,578), of record, in view of Gallagher (USPN 7,016,308), of record, in further view of Gulliford et al. (USPN 6,366,584), of record, as applied to claims 15 and 41 above, and further in view of Lewis et al. (USPN 6,009,099), of record.

61. Regarding claim 32, Fluss in view of Gallagher in further view of Gulliford does not expressly disclose that the at least one access point is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier. However, Fluss in view of Gallagher in further view of Gulliford does disclose that the packets contain video information (Gulliford: col. 4, lines 53-57). Lewis teaches, in a video distribution network, at least device is operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier (col. 2, lines 56-64, where a request from a user is received and forwarded to the video information provider, i.e. video supplier, if the channel is not already being received). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the at least one access point be operative to receive requests for video content from at least one subscriber unit and forward those requests to at least one video supplier in the system of Fluss in view of Gulliford, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

62. Regarding claim 33, Fluss in view of Gallagher in further view of Gulliford does not expressly disclose that the at least one access point replicates video information packets comprising a video channel for each of a plurality of subscriber units requesting the video

channel. However, Fluss in view of Gallagher in further view of Gulliford does disclose that the packets contain video information (Gulliford: col. 4, lines 53-57). Lewis teaches, in a video distribution network, replicating video information packets comprising a video channel for each of a plurality of subscriber units requesting the video channel (col. 2, lines 64-67, where multipoint transmissions involve replication of the information). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the at least one access point replicate video information packets comprising a video channel for each of a plurality of subscriber units requesting the video channel in the system of Fluss in view of Gulliford, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

63. Regarding claim 34, Fluss in view of Gallagher in further view of Gulliford does not expressly disclose that at least one access point is operative to receive a request to access a video channel from a subscriber unit; determine if the requested video channel is currently being accessed by another subscriber unit served by the access point; and if the requested video channel is not currently being accessed by another subscriber unit served by the access point, forwarding the request to a video supplier. However, Fluss in view of Gulliford does disclose that the packets contain video information (Gulliford: col. 4, lines 53-57). Lewis teaches, in a video distribution network, receiving a request to access a video channel from a subscriber unit (col. 1, lines 52-63, where a user sends a request for an information channel); determining if the requested video channel is currently being accessed by another subscriber unit served by the device (col. 3, lines 4-9, where devices keep track of the number of units receiving an active

channel); and if the requested video channel is not currently being accessed by another subscriber unit served by the device, forwarding the request to a video supplier (col. 1, lines 52-63, where "[i]f the new video channel is authorized but not available, steps are performed such that the new video channel becomes available," see also col. 2, lines 54-64). Lewis does this to decrease bandwidth requirements in a network for the efficient delivery of video information (col. 1, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the at least one access point be operative to receive a request to access a video channel from a subscriber unit; determine if the requested video channel is currently being accessed by another subscriber unit served by the access point; and if the requested video channel is not currently being accessed by another subscriber unit served by the access point, forwarding the request to a video supplier in the system of Fluss in view of Gulliford, as outlined in Lewis, since this decreases bandwidth requirements in a network for the efficient delivery of video information.

64. Regarding claim 35, Fluss in view of Gallagher in further view of Gulliford in further view of Lewis discloses that each of the at least one access point is further operative to receive a video information packet from at least one video supplier (Lewis: col. 2, lines 10-22, where the video information is received in an ATM cell, i.e. an information packet); determine if the received video packet corresponds to a video channel requested by more than one subscriber unit (Lewis: col. 2, lines 10-22, where ATM cells are provided to the requesting units); and forward the video packet to each subscriber unit requesting the video channel (Lewis: col. 2, lines 10-22, where ATM cells are provided to the requesting units).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL J. RYMAN whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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